

Claims

1. A chemical mechanical planarization (CMP) pad, comprising:

5 a cylindrical core; and

a CMP pad material disposed on an outer portion of the cylindrical core.

2. The CMP pad of claim 1, wherein the CMP pad material is configured for
buffing.

10 3. The CMP pad of claim 1, wherein the CMP pad material is comprised of
porous rubber.

15 4. The CMP pad of claim 1, wherein the CMP pad material is configured for
cleaning.

5. The CMP pad of claim 1, wherein the cylindrical core is comprised of
stainless steel.

20 6. The CMP pad of claim 1, wherein the cylindrical core is hollow.

7. The CMP pad of claim 1, wherein the cylindrical core is solid.

8. A method for preparing a wafer in a cleaning module, comprising:

dispensing slurry onto a surface of a wafer;

5 conducting a chemical mechanical planarization (CMP) operation in the cleaning module by contacting a surface of a brush with the surface of the wafer; and

conducting a cleaning operation in the cleaning module.

9. The method of claim 8, wherein the CMP operation includes:

10 creating relative motion between the surface of the brush and the surface of the wafer.

10. The method of claim 9, wherein the relative motion is created by rotating the brush about a central axis of the brush, the central axis being parallel to the surface of the
15 wafer.

11. The method of claim 9, wherein the relative motion is created by rotating the wafer about a central axis of the wafer, the central axis being perpendicular to the surface of the wafer.

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12. The method of claim 8, wherein the brush is configured to apply a constant and even pressure against the surface of the wafer.

13. A chemical mechanical planarization (CMP) system, comprising:

a first brush;

5 a second brush, the second brush being oriented relative to the first brush to receive a wafer between the first and second brushes;

a first drive roller;

a second drive roller, the first and second drive rollers being configured to receive an edge of the wafer to stabilize and rotate the wafer when placed between the first and second

10 brushes; and

a slurry dispenser disposed above the two drive rollers, the slurry dispenser being configured to dispense slurry onto the surface of the wafer.

14. The CMP system of claim 13, further comprising:

15 a third drive roller, the first, second, and third drive rollers being configured to receive an edge of the wafer to stabilize and rotate the wafer when placed between the first and second brushes.

15. The CMP system of claim 13, further comprising:

20 a housing, the housing being configured to enclose the CMP system.

16. The CMP system of claim 13, further comprising:

a CMP pad covering an outer portion of the first brush.

17. The CMP system of claim 16, wherein the CMP pad includes:

5 a cylindrical core; and

a CMP pad material disposed on an outer portion of the cylindrical core.

18. The CMP system of claim 17, wherein the CMP pad material is configured
for buffing.

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19. The CMP system of claim 17, wherein the CMP pad material is comprised of
porous rubber.

20. The CMP system of claim 17, wherein the CMP pad material is configured
15 for cleaning.

21. The CMP system of claim 13, wherein the first and second brushes are
comprised of polyvinyl alcohol (PVA).

20 22. A method for preparing a wafer in a cleaning module, comprising:

dispensing slurry onto a surface of a wafer;

conducting a chemical mechanical planarization (CMP) operation in the cleaning module by contacting a surface of a CMP pad material with the surface of the wafer; and

conducting a cleaning operation in the cleaning module by contacting the CMP pad

5 material with the surface of the wafer.